

WHAT IS CLAIMED IS:

1. A method for the manufacture of an in-press coated composite substrate, comprising:

5 (a) applying an aqueous coating composition to a surface of a compressible mat comprising fibers, chips or particles and a resin;
(b) compressing the mat and applied coating composition between heated metal surfaces in a press; and
(c) releasing the compressed, coated composite substrate from

10 the press;

characterized in that the aqueous coating composition comprises an aqueous emulsion copolymer and a ground ion exchange resin.

2. The method of Claim 1 wherein the fibers, chips, particles and resin used to

15 form the mat are selected from cellulose, glass, synthetic polymers, carbon and organic or inorganic cementitious compositions and combinations thereof.

3. The method of Claim 1 wherein the emulsion polymer is selected from

(meth)acrylic ester monomers, methyl acrylate, ethyl acrylate, butyl acrylate, 2-ethylhexyl acrylate, decyl acrylate, lauryl acrylate, methyl methacrylate, butyl methacrylate, isodecyl methacrylate, lauryl methacrylate, hydroxyethyl methacrylate, hydroxypropyl methacrylate, (meth)acrylonitrile, (meth)acrylamide, amino-functional monomers, ureido-functional monomers, monomers bearing acetoacetate-functional groups, styrene, substituted styrenes, butadiene, ethylene, propylene, α -olefins, 1-decene, vinyl acetate, vinyl butyrate, vinyl esters, vinyl monomers, vinyl chloride, vinylidene chloride and combinations thereof.

4. The method of Claim 1 wherein the ion exchange resin is selected from

30 anion exchange resins, cation exchange resins, mixed bed resins and combinations thereof.

5. The method of Claim 1 wherein the ion exchange resin is at least 1.7 percent solid ion exchange resin on coating polymer solids.

5 6. An aqueous coating composition for in-press molded composite substrates comprising an emulsion polymer and ground ion exchange resin wherein said coated composite substrate exhibits improved mold release properties, color stability and initial whiteness as compared with identical coatings without the ion exchange resin.

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7. The composition of Claim 6 wherein the emulsion polymer is selected from (meth)acrylic ester monomers, methyl acrylate, ethyl acrylate, butyl acrylate, 2-ethylhexyl acrylate, decyl acrylate, lauryl acrylate, methyl methacrylate, butyl methacrylate, isodecyl methacrylate, lauryl methacrylate, hydroxyethyl methacrylate, hydroxypropyl methacrylate, (meth)acrylonitrile, (meth)acrylamide, amino-functional monomers, ureido-functional monomers, monomers bearing acetoacetate-functional groups, styrene, substituted styrenes, butadiene, ethylene, propylene, α -olefins, 1-decene, vinyl acetate, vinyl butyrate, vinyl esters, vinyl monomers, vinyl chloride, vinylidene chloride and combinations thereof.

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8. The composition of Claim 6 wherein the ion exchange resin is selected from anion exchange resins, cation exchange resins, mixed bed resins and combinations thereof.

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9. The composition of Claim 1 wherein the ion exchange resin is at least 1.7 percent solid ion exchange resin on coating polymer solids.

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10. The composition of Claim 1 wherein the initial whiteness L^* value as measured by Gardner Colorimeter using the CIE $L^*a^*b^*$ scale is at least 5 % greater than the initial whiteness of an identical coating without the ion

exchange resin.